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ABSTRACT

An environmental scanning system was developed by the admissions office of a graduate school of management in a small southeastern university. The school's strategic planning committee felt that it would be beneficial to acquire information concerning issues, trends, and possible events that might impact upon the school in the future and to analyze this information so as to better prepare the school for change. Six broad categories were to be scanned: four of these were in the traditional social, technological, economic, and political areas; additionally it was felt that regulatory matters involving accreditation and the category of competitive intelligence should be included. The planning committee chose the ED QUEST model for its planning efforts. After the categories were chosen, information resources were identified and streamlined to aid convenience, time management, and better resource utilization. The major outcomes of the environmental scanning process were the development of an environmental scanning notebook, a newsletter, and the development of Delphi statements which were constructed to propose possible future implications of the themes and items of information suggested for the school. Outcomes indicated significant progress for the school of management. The process itself was viewed as being more important than the product because it elevated planning to the status of a regular activity, thus improving the organization's strategic management and planning. Contains 18 references. (GLR)

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Developing an Environmental Scanning System in an Educational Organization: Lessons Learned

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Running Head: ENVIRONMENTAL SCANNING

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This paper was presented at the Thirtieth Annual Forum of the Association for Institutional Research held at The Galt House, Louisville, Kentucky, May 13-16, 1990. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum Papers.

Jean Endo
Chair and Editor
Forum Publications Editorial
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Developing an Environmental Scanning System in an Educational Organization: Lessons Learned

In the past two decades the environment of higher education has become increasingly turbulent. There have been major shifts in the demographic composition of student clienteles, a radical restructuring of the tax code, growing criticism of the quality of the undergraduate curriculum, and increasing use of electronic technologies resulting in major changes in the delivery systems of colleges and universities.

Given this rapidly changing environment, the lead time once enjoyed by administrators to analyze and respond to changes in their institution's external environment has decreased. Moreover, traditional long-range planning models, with their inward focus and reliance on historical data, are weak in anticipating external environmental changes and assessing their impact on the organization (Cope, 1987). The underlying assumption of such models is that any future change will be a continuation of the rate and direction of present trends among a limited number of social, technological, economic, and political variables, the interrelationship of which will remain fixed over time. They thus reflect an assumption that the future for the institution will reflect the past and present or, in essence, the future will be "surprise-free." We know, however, that this is not true, and the further we go out into the future, the less it will be true.

What is needed, as Jonsen (1986) argues, is a method which enables administrators to integrate understanding about various sectors of the external environment, especially as they might be interrelated; a capacity to translate this understanding into the institution's planning activity; and a sufficient priority given to the activity to ensure its translation into decisions and implementation.

A technique has been developed in the corporate sector to systematically gather and evaluate information from the external environment--the environmental scanning process (Thomas, 1980). Brown and Weiner (1985) define environmental scanning as "a kind of radar to scan the world systematically and signal the new, the unexpected, the major and the minor" (p. ix). Aguilar (1967) has defined scanning as the *systematic* collection of external information in order to (1) lessen the randomness of information flowing into the organization and (2) provide early warnings for managers of changing external conditions.

More specifically, Coates (1985) has identified the objectives of an environmental scanning system as:

- detecting scientific, technical, economic, social, and political interactions and other elements important to the organization

- defining the potential threats, opportunities, or potential changes for the organization implied by those events

- promoting a future orientation in management and staff

- alerting management and staff to trends which are converging, diverging, speeding up, slowing down, or interacting (pp. 2-13, 14)

Recent literature in educational planning has encouraged college and university administrators to use this process as part of their strategic planning model (Cope, 1981; Keller, 1983; Morrison, Renfro, and Boucher, 1984; Callan, 1986; and Morrison, 1987). Indeed, a number of colleges and universities have begun to develop methods of formally incorporating environmental scanning information in planning for the future. Sometimes, as is the case at Cantonsville, Maryland, Community College or Georgia Southern, this takes the form of one or two individuals in the planning or institutional research office doing a survey of the available literature (Morrison, 1986). Often this review is comprehensive and focuses on obtaining important historical data as well as forecasts in the social, technological, economic, and political sectors of the external environment. Periodically, the scan is updated. Many times the scan is restricted to one or two sectors of the environment. Jonsen (1986), for example, cites the scan of the California Postsecondary Education Commission as focusing on demographic and economic data. Other times the scan is confined to selecting key environmental issues, trends, and domains for monitoring. At the University of Minnesota, for example, the Experimental Team on Environmental Assessment identified between 20 and 30 issues to track (Hearn and Heydinger, 1985). Unfortunately, there are few reports in the literature describing these systems, irrespective of the form they are taking. A search of the ERIC literature base found little in the way of illustrating how an educational organization has actually developed, implemented and used the process to provide information for the strategic direction of the organization.

This paper illustrates how the admissions office of a graduate school of management developed an environmental scanning system. We begin by describing the history, structure, and circumstance which led to the initiation of the project. What follows is a detailed account of how the system was established and how the it operates to provide strategic direction in organizational and programmic planning. We conclude with an examination of the lessons learned in developing the system.

Initiation of the Environmental Scanning Process

During the Spring of 1988, the Strategic Planning Committee at a Graduate School of Management in a small Southeastern university, decided that it would be beneficial to examine what issues, trends and possible events might impact upon the school in the future. The committee felt that it would be advantageous to monitor possible environmental impacts and to develop strategic options the school might utilize in order to proactively meet the challenges of the external environment. Since this was the school's first attempt at environmental scanning, it was decided that rather than do a scan for the entire graduate school of management, it would focus instead on the school's Office of Admissions and Financial Aid. If the scan proved beneficial for this office, then a scan for the entire school would be implemented at a later date. The committee chose the ED QUEST (Morrison and Mecca, 1986) model as the basis for its environmental scanning, forecasting and planning process. This model was chosen because it is designed to systematically integrate scanning with an organization's strategic planning efforts.

Selection of the ED QUEST Team

The committee decided to make the ED QUEST process the responsibility of a team headed by one of the members of the strategic planning committee. In this way, the committee could stay adequately informed and provide direction while freeing itself from the daily task functions of the process. The ED QUEST team consisted of the Director of Admissions and Financial Aid, the Associate Director, the Assistant Director and two full-time teaching faculty members. The chair, and facilitator of the team, was the Director of Admissions and Financial Aid. The Director was also a member of the strategic planning committee.

Team Training

Once team members were chosen they met for a training session designed to familiarize them with the details of the environmental scanning process and to discuss its specific application to the school of management and the office of admissions. Prior to the training session, team members were given copies of the ED QUEST Manual (Morrison and Mecca, 1986) and a paper titled "Establishing an environmental scanning/forecasting system to augment college and university planning" (Morrison, 1987). The process described in the manual served as a procedural guide to establishing the environmental scanning system. Team members were briefed by the facilitator on how the process was to be performed and answered questions regarding its implementation.

Development of the Scanning Taxonomy

The team reviewed scanning taxonomies used by the United Way of America (Morrison and Mecca, 1986), University of Georgia (Simpson, McGinity and Morrison, 1987), University of Minnesota (Pflaum and Delmont, 1985), and the Continuing Research Seminar in Organizational Planning and Policy Analysis at the University of North Carolina at Chapel Hill (Morrison, 1989).

Based on these previous works and the present needs of the school of management, the team decided on six broad categories to be included in the scan. They included four areas traditionally found in environmental scans: social, technological, economic, and political categories (STEP). In addition, the team felt that the categories of regulatory and competitive intelligence needed to be included in order to adapt the model to the admissions program of the school of management. Regulatory, as the team saw it, was primarily concerned with American Assembly of Collegiate Business Schools (AACSB) accreditation requirements as well as signals of potential long term changes in AACSB policies. The team felt that it was important to add this scanning category in order to keep current on accreditation requirements as well as signals of potential long term changes in AACSB policies. The team added competitive intelligence because, as one team member pointed out, "our success or failure does not depend solely on our actions but also on those of schools with which we compete against." The team wanted to conduct a comprehensive scan in all sectors, local through global. This required identifying information resources that covered all of the categories.

Identifying Information Resources

Once the committee had delineated the scanning categories, it turned its attention to identifying information resources. In keeping with the ED QUEST model, the intent was to use information resources representing the major scanning categories from the local to international arenas. Particular sources were assigned to individual scanners for regular and systematic review each time they appeared. The resulting sources used by the scanning team are identified in Table l below.

Modifications to the Environmental Scanning Process

During the course of the process the team discovered several problems with the original environmental scanning model. One of the problems the team encountered was information overload. The team concluded that too much information was being collected under the six broad categories to be useful in the planning process. One of the teammembers pointed out that "scanning is supposed to increase inputs into the strategic planning process in such a way as to facilitate the identification and understanding of external factors and their impact on the organization." He continued that, "using six categories, we often find ourselves spending too much time on information collection and not enough time on the analysis and utilization of the information." Being inexperienced in scanning combined with the somewhat amorphous nature of the categories, team members saw relationships and implications for the school in almost everything they read. The result was literally stacks and stacks of news clippings and xerox copies on items ranging from the announcement of a new small business opening in the town to U.S./Japanese talks on free trade. The team felt that, while good information was being collected and appropriately categorized, its sheer mass inhibited them from digesting the material and working it into their planning process. The team felt that it was becoming better informed but that steps needed to be taken to insure that they did not become overloaded. The team discussed alterations to the model that would alleviate or reduce the overload of information on team members.

Table 1

Publications Scanned

AACSB News letter
Academy of Management Review
American Demographics
American Sociological Review
Barron's
Brookings Review
Business and Society Review
Business Literature
Business Month
Business North Carolina
Strategy
Business Week's Careers
California Management Review
Carolina Piedmont
Case Currents
Change
Chronicle of Higher Education
Conference Board
Economist
Forbes
Fortune
Futurist
Futures
GMAC Demographic Profiles
GMAC Multiple Score Reports
GMAC New Matriculants Survey
Harvard Business Review
Higher Education and National Affairs
Industry Week
Journal of Applied Behavioral Science
Journal of Applied Psychology
Journal of Business Research
Journal of Business Strategy
Journal of Economic Literature
Journal of General Management
Journal of Long Range Planning
Kipplinger Washington letter
Management Review
Management Science
Managerial Planning
Nations Business
Newsweek
New York Times
North Carolina Business
Organizational behavior and Human Decision Process
Organizational Dynamics
PC Magazine
PC News
PC World
Planning for Higher Education
Review in Higher Education
Selections
Sloan Management Review
Technology Forecasts
Time
Triad Business
USA Today
US News and World Report
Wall Street Journal
Working Woman
World Press Review
Winston-Salem Journal

To correct the information overload problem, the team decided to make several adjustments. First, the team decided to develop an explicit draft statement of the organization's mission and a preliminary list of its strengths, weaknesses and performance indicators. The rationale was that such a statement would stimulate the team to view the environment from the parochial interests of the organization and, therefore, would more efficiently channel the resources and energy of scanners. For example, although there would be some overlap, significant differences would exist between what is important for the school of management and other organizations. The team felt that for the process to be most useful, these differences should be accentuated earlier rather than later in the process.

Draft statements of the mission, strengths, weaknesses, and performance indicators were distributed to the entire faculty with a request for their critique and comment. Subsequently, these drafts became the focus of several special faculty meetings resulting in a new mission statement agreed upon by the faculty.

The second change that the team made was to add sub-categories to the taxonomy. The team believed that each category was so broad that it did not serve to guide efficient data collection, resulting in information overload. It was decided that what was needed was a more focused scan of the external environment. To organize this new focus the team did several things. First, building on what they had learned from their initial scanning effort, the team brainstormed ways to further partition the external environment. Team members were asked to write down what other categories they thought should be included. The lists were collected and compiled. From this exercise several new categories were added (e.g., computer technology). However, this approach increased rather than decreased information overload.

After some discussion, the team decided a more profitable approach would be to identify sub-categories of immediate relevance to the school of management. Considering how slow and how few changes educational organizations make, the team felt that only a few issues would be of relative importance. That is to say, if the team uncovered eight or nine important issues, the school would be inclined to fully address only one or two of them. In effect, the team decided to change its posture from a broad 360 degree environmental scan to one of monitoring developments within specific categories.

As a group, the team discussed what specific issues under each broad category were important to monitor for the school of management. They outlined those areas that should

be examined based on their knowledge of the organization and the initial scan. For example, the team would no longer scan under just the broad heading "economic." Rather, the team would seek information under areas such as the budget deficit, the trade deficit, and interest rates. The team felt that together, these issues provided economic information that might affect the school. The team was sensitive to the fact that important items not on the list would "pop up on their radar" and that items concerning these areas may appear in publications assigned to persons not covering a particular category.

The team also found that as teachers, researchers and administrators, they did not have the time required to scan a lengthy list of publications. It was decided that another change in the process would be to hire graduate assistants and give them the responsibility for scanning a specific category and its sub-categories. It was felt that graduate assistants could be trained to do just as good, if not better, job of scanning publications. This allowed the faculty and professional staff members to concentrate their efforts and expertise on analyzing the information gathered and deciding what information would be worth pursuing.

Major Outcomes of the Environmental Scanning Process

There were two publications produced in the environmental scanning process, the environmental scanning notebook called *Beyond 1988: An Environmental Scanning Notebook for the MBA Program* and an environmental scanning newsletter called, *The Bigger Picture*. In addition, environmental scanning was seen as the initial part of the ED QUEST planning process, a process designed to improve admissions office planning by providing a proactive list of strategic options for use by that office. The environmental scanning process served to provide initial inputs into a complete planning model (ED QUEST). However, the application of this model to inform admissions office planning affected the entire school of management in ways unforeseen at the outset of the project.

Development of the Scanning Notebook and Delphi Questionnaire

After the initial scanning of information resources was completed, the graduate assistants met individually with the team facilitator. Together they sifted through the scores of items and distilled them to the ones that seemed to be most meaningful to the admissions office of the school of management. From these items, essays based on issues, trends and possible events were woven together to represent possible futures that might confront the

school. Some of the futures were short-term (one-year) while others reached out beyond the year 2000 (a scant 12 years or six graduating classes away). The essays were incorporated together in the environmental scanning notebook. The major trends, events and issues used to develop the essays were also used to develop Delphi statements (e.g., single-idea statements that captured the essence of the issues, trends and possible events). These statements were constructed so as to propose possible future implications the themes and items had for the school.

After the scanning notebook was complete, a copy was given to each member of the team as well as to the faculty and staff members. Team members were required (and other community members were requested) to read the scanning report and to complete the Delphi at the end of the document.

Delphi statements from all of the categories in the report were compiled and presented together at the end of the document. In addition, they were attached in questionnaire format in order to be turned in to the team facilitator. The statements were analyzed by the team to distill the list of items down to those most salient for the school of management. Individuals were asked to respond to the Delphi in three steps. First, they were asked to put a check next to those statements that they felt were relevant to the school of management. Second, they were asked to rate the items on a "1" to "5" scale ("5" being most impactful). Finally, they were requested to add any trends, events or issues based on their own scanning and experience that they felt were important and that the school might face over the next one to fifteen years.

This information was used by the scanning team as input into the ED QUEST planning process for the admissions office. Those items thought to be relevant and with the highest impact on the school were chosen for additional study. The team facilitator presented these items and requested that each of the team members evaluate them vis-a-vis their importance for the school of management and its admissions program. Each item was thoroughly discussed with particular attention to its future importance to admissions in the school. Based on this discussion, modifications were made to the list.

Development of the Scanning Newsletter

About this time in the process, the team felt that it was collecting, developing and analyzing a substantial amount of information that potentially could be useful to all faculty and staff members of the school of management. The team wanted to develop a vehicle, aside from the environmental scanning notebook, that would both engage people to think about scanning as well as to inform them about the products of the on-going environmental scanning process that had implication for the school. It was decided that a scanning newsletter called *The Bigger Picture* would be distributed on a regular basis (once a month). The purpose of *The Bigger Picture* was "a sharing of issues, trends, events and competitive intelligence with possible implications for the Wake Forest MBA program." *The Bigger Picture* provided organizational members with light but informative reading on such things as future trends in management, competitor information, and results of on-going ED QUEST products (e.g., cross-impact matrix interrelating trends and events, identification of performance indicators).

Assessing major environmental elements on the school

Having completed the selection of the major environmental elements, the team began its next task: assessing their strength and impact on the school's internal elements (mission and performance indicators). Each member of the team was given a cross-impact matrix that listed the major environmental elements against the school's performance indicators and mission. The purpose of this exercise was to develop an understanding of the impact of the external environment on the school of management, and to use this understanding in the development of three scenarios designed to provide a good sense of the range of possible futures likely to confront the school of management. Team members identified options within each scenario that would place the school in an advantageous position. The process and outcomes of the application of the entire ED QUEST model have been described in more detail elsewhere (Ptaszynski and Morrison, in press).

Unanticipated Outcome

When the study began, the primary focus of the environmental scanning intervention was the office of admissions and financial aid within the school of management. The original premise was to perform environmental scanning for one unit of the school and, at a later date, to introduce environmental scanning into the entire organization. It was reasoned

that it would be beneficial to ascertain the utility of environmental scanning for an individual unit before attempting to implement it for the total organization.

Although this was the initial plan, the environmental scanning process spread throughout the entire organization. It quickly became apparent to the team that the admissions and financial aid office could not plan and act in isolation from the larger organization. For example, after the team developed a preliminary document that "defined the nature of the organization" (e.g., a mission statement), it was reasoned that for this statement to be of real value, it had to be shared with the total organization. When the statement was distributed to the entire faculty, it became the focus of several faculty meetings, resulting in a substantially revised mission statement for the school. The faculty became even more involved when the notebook, *Beyond 1988: An Environmental Scanning Notebook for the MBA Program* was distributed along with a request that they complete the questionnaire. This involvement changed the focus of the study, resulting in scenarios and strategic options for the entire school of management, not just the admissions program. The school's faculty and staff were aware of these developments, as well as the continuing environmental scanning program through periodic publishing of the newsletter, *The Bigger Picture*.

Lessons Learned

The implementation of the environmental scanning process in the school of management did not uncover highly strategic information from the external environment that allowed it to make quantum leaps over its competitors in the MBA market place. However, what was accomplished by the implementation of the environmental scanning process was significant to the school of management and worthy of consideration for implementation in other organizations. One of the main conclusions reached from the study was that *the process of environmental scanning was more important than any of its products*. The process of people coming together and talking, in great detail and with regular frequency, about the school was the linchpin to all other benefits. Environmental scanning helped to create an environment where the components of planning were more than just a once a year exercise; planning became an on-going concern to those involved in the environmental scanning process. Elevating planning to a regular activity fostered improvement in the organization's strategic management and planning. It also set the stage for other benefits to occur. One of these benefits was that individuals involved in environmental scanning became more sensitive to external factors and how they might

impact on the school of management. Prior to implementing the environmental scanning process, and outside of the usual planning cycle, these individuals paid little attention to information they encountered that had possible implications for the school. Environmental scanning not only sensitized them to the importance of external information but it also gave them a vehicle for capturing this information and integrating it into the organization's planning activities.

Relatedly, the planning process was "opened-up." Prior to implementing the environmental scanning project, the majority of the school's planning efforts were restricted to a few administrators and professional staff members. The environmental scanning process made information available to many more individuals at many levels within the school. More importantly, it involved more individuals in the organization in planning activities. This led to a greater feeling of a shared vision among organizational members.

Another lesson learned from the process was that while environmental scanning exposed organizational members to information that they might not have otherwise encountered, it also greatly increased the possibility of information overload among team members. Information overload did occur in the preliminary implementation of the environmental scanning process and it threatened to shut down the entire process. It was realized that too much information like too much of anything in this world (except, perhaps, money and disk space) is not a good thing. Maintaining a proper balance between comprehensive scanning and a manageable load of information was important. Consistent with earlier remarks, the environmental scanning process was altered to include graduate assistants; this was accepted as the price of maintaining the cooperation and interest of the environmental scanning team.

Possible team burnout was something that became important as the process proceeded. The environmental scanning process, as implemented, was time consuming and required a great deal of effort and commitment on the part of the environmental scanning team. The team felt that it was important that burnout be anticipated and steps taken to reduce it. One of the most valuable preventative actions is to make participation on the environmental scanning team a recognized and rewarded organizational activity. The process is too time consuming and energy draining to expect that team members volunteer their time. To be effective, team participation should be given the same credit as other major committee assignments when promotion, tenure and compensation are considered.

The case study also indicated that information overload or burnout could be a problem among other organizational members that were not a part of the environmental scanning team. No matter how relevant or important the information gathered was for the school, it is necessary to present the information in a format that was inviting. A "For Your Information" memorandum would have gone unnoticed on a busy faculty or staff member's desk. Newsletters like *The Bigger Picture* are necessary to communicate to a increasingly harried and visual society.

Another conclusion that was reached was that Jain (1984) was correct when he wrote that "scanning activities cannot be transplanted by copying a model from another institution. Rather, it must be adapted and evolve while being sensitive to the corporate culture of the host institution" (p. 118). This was found to be true in the implementation of environmental scanning at the school of management. The various modifications that have been noted were necessary in order to adapt a general environmental scanning model to the culture, climate and environment facing the school of management (i.e., its history, market niche, communication patterns, organizational chart, etc.). It would be inadvisable to try to implement the environmental scanning model into an organization without taking into account the specific organizational culture and climate being entered.

Recommendations

Change did occur at the school of management through the implementation of an environmental scanning process. In order for the model to run smoother in the future at the school of management as well as in other organizations, the following suggestions are made:

1. To begin the process, conduct an environmental scanning workshop for the entire organization. The purpose of this workshop would be to educate organizational members as to the products of environmental scanning, possible benefits to the organization and an overview of the mechanics of the environmental scanning process. Assuming that organization leaders decided to engage in environmental scanning, complete training should be provided at a later date for members of an environmental scanning team.

2. Initially, limit the environmental scan so that each team member scans at most only a few sources. This will allow the environmental scanning team to "play" with real

data while learning the process but it will also reduce the probability of information overload.

3. To insure the survival of the environmental scanning process and to allow it to achieve its greatest impact on the organization, the environmental scanning process needs a "champion." This champion needs to be central to the organization. Such a person is necessary to insure that the necessary resources and commitment are available for the process.

4. Information gathered in the process should be broken into small "chunks." Overwhelming planning team members with data, relevant or not, is the best way to insure that they will tune out of the process. The data should also be presented in an aesthetically pleasing, relevant, and inviting format.

5. Remember that environmental scanning is an on-going process and not a one-shot intervention. Environmental scanning, like any other major OD intervention, takes time to be fully a part of the organization's culture and climate. Complete integration into the organization should not be expected the first time it is implemented.

6. The environmental scanning team leader assignment ideally should be for a multi-year period. To select and train a new team leader each year would require the loss of valuable time. In addition, each successive year, theoretically, the team leader should become more adept at the idiosyncrasies of the process. Such an appointment would be consistent with many other academic appointments such as dean, associate dean or program director.

7. Work assignments should be made in such a way as to allow for one fourth of the team facilitator's time to be given to coordinating the environmental scanning effort. Dumping this project on to an already busy professional's desk without compensation or reorganization of duties will almost insure that the process will be neglected.

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